

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the application of:

Bonsch et al.

Docket: MDP-103

Serial Number: 10/537,725

Group Art Unit: 1797

Filed: November 8, 2005

Examiner: Ming Cheung Po

International Application Number:

PCT/EP03/10550

International Filing Date:

September 23, 2003

For: METHOD FOR IMPROVING THE LONG TERM STABILITY OF BIODIESEL

DECLARATION UNDER 37 C.F.R. 1.132

I, Dr. Rudolf Bönsch declare as follows:

I was awarded the degree of Bachelor of Science (Diploma) in Biology from
Universität Mainz in 1984.

I am an inventor of the subject matter claimed in the above identified patent application. I am aware of the office action mailed on May 11, 2010 in this application. Based on my knowledge in this field of art, as well as my specific knowledge of the subject matter relating to the invention of this application, I conclude that it is well known in the art that to form an oil emulsion, a certain amount of water must be carried by the oil. Applying this principle to the present invention, it would be clear to one skilled in the art that to form an emulsion of claim 1, step (c), the strong acid must be incorporated in dilute aqueous form. The strong acid of this invention is specifically used for crystallized nuclei hydrophilization, that is, to make the ester wettable with water. While the originally filed text of the present application does not specify the concentration of acid, to an expert it would be clear that to form an emulsion, water must be introduced in the fatty acid ester. It would be clear to one skilled in the art that the strong acid in this application must be incorporated in dilute aqueous form to result in an emulsion.

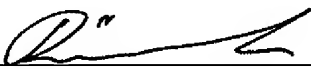
I further conclude that since the cited Johnson (US 5,520,708) reference refers to adding of strong acid only as a catalyst in a transesterification reaction, the addition of an aqueous acid would not be desirable since it would hinder the esterification process. Johnson gives no information about the concentration of the acid catalyst. However, an expert in the art would know that it would be counterproductive to use acidic water in the implementation of an esterification process since there acid is only used as a catalyst, and is used in those instances where a large percentage of free fatty acids exist in the oil. The acid then has the task of catalyzing the esterifying of free fatty acids. Since the second product of this chemical reaction is water, the addition of an aqueous acid would hinder the esterification reaction according to the law of mass action. Therefore, one skilled in the art would expect that the acids of Johnson must be anhydrous acids for their intended purpose in the reaction mixture. This goes against the aforementioned principle that an aqueous acid must be present to form an emulsion where no other water is present.

In summary, I conclude that the formation of an emulsion of a crude methyl ester and a strong acid as required by the present claim 1, step (c), is not possible in view of the teachings of Johnson (US 5,520,708), even upon a hypothetical repetition of their transesterification reaction phase.

The undersigned declares further that all statements made herein of his own knowledge are true and that all statements made upon information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

06.09.2010

Date


(NAME)